

Historic, Archive Document

Do not assume content reflects current scientific knowledge, policies, or practices.



United States
Department of
Agriculture

Agricultural
Cooperative
Service

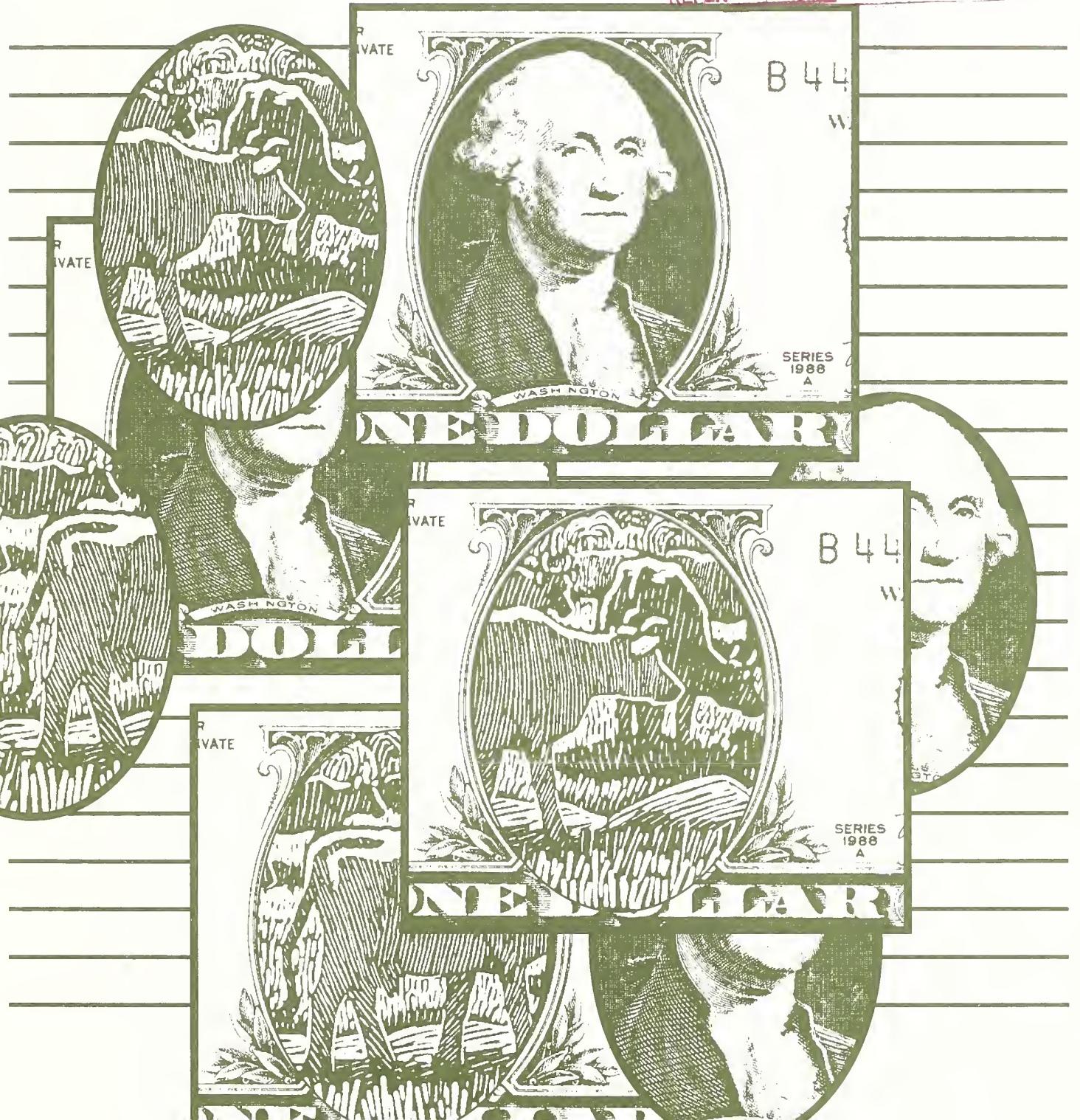
ACS Research
Report
Number 99

a HD 1491
M10502
c2

Value of Cooperative Benefits to Southern Dairy Farmers

NO. PRINTED 2926 DATE 10/23/91

NEW RPT SL. REV. REV.
REFER PRICE n.s.



Abstract

Value of Cooperative Benefits to Southern Dairy Farmers

Carolyn Betts Liebrand
K. Charles Ling
Agricultural Cooperative Service
U.S. Department of Agriculture

This research sought to determine the tradeoff between the benefits of marketing milk through a cooperative and the higher price received by producers selling milk to proprietary handlers. Prices received by farmers selling to cooperatives were compared with the price they could have received from a proprietary handler in the same area. The price differences were examined using various measures. Four groupings of cooperative members with an alternative proprietary handler in their area were used to determine the value of cooperative benefits. The general price difference indicated that, overall, the cooperative members' mailbox price averaged \$0.37 per hundredweight (cwt) lower than the prices paid by proprietary handlers. Those who were satisfied or very satisfied with their cooperative, had lower prices and knew it, received \$0.57 per cwt lower mailbox prices.

Key Words: Cooperatives, assured market, mailbox price, cooperative benefits, proprietary handler

ACS Research Report No. 99

October 1991

Preface

According to a previous report (2), many farmers gave high marks to the benefits of services and market security provided by their cooperatives. They also reported receiving lower milk pay prices than their counterparts delivering to proprietary handlers. It seems that these cooperative members are on an indifference curve (or curves) where they gave equal value to lower pay price but better benefits provided by the cooperatives and the higher proprietary handler price. This report sought to determine the tradeoff between the benefits of belonging to a cooperative and the higher price received by producers selling milk to proprietary handlers. In other words, an attempt was made to quantify the value of the benefits of market security and services provided by cooperatives.

Survey information was used to determine the tradeoff between the benefits of belonging to a cooperative and the higher price received by producers selling milk to proprietary handlers. The value of cooperative benefits was postulated to be quantified by comparing price data between those farmers selling to cooperatives and those farmers selling to proprietary handlers in the same area. Price differences were examined using various measures of price. Differences in deductions were identified as well. Cooperative members who knew they received lower prices than they could have received if they had sold to a proprietary handler in their area, and who were satisfied or very satisfied with their cooperative, provided the clearest indication of what farmers were willing to give up in price to obtain cooperative benefits. If farmers better understand the value of belonging to a cooperative, perhaps more will want to join.

A survey of Southern dairy farmers' perceptions of their cooperative's or proprietary handler's performance, their level of satisfaction with the handler, and their reasons for staying with the handler or for shifting handlers was conducted by members of S-217, the Southern Dairy Marketing Research Committee, in early 1989. Data on milk prices received by producers, premiums, and deductions were also supplied by farmers, except those in Florida. Dale Carley reviewed and edited the price data. This report is a product of the S-217 project, "Economic and Technical Forces Shaping the Southern Dairy Industry." However, the authors of this report are solely responsible for the analysis presented. Cooperating agricultural experiment stations (AES), agencies, and principal contributors to this project were:

Alabama AES
Auburn University, AL

Bob Nelson

Arkansas AES
Fayetteville, AR

Calvin Berry

Florida Institute of Food
and Agricultural Sciences
Gainesville, FL

Richard Kilmer

Georgia AES Griffin, GA	Dale Carley
Kentucky AES Lexington, KY	Robert Beck
Louisiana AES Baton Rouge, LA	Wayne Gauthier
Mississippi Agriculture and Forestry Experiment Station Mississippi State, MS	Charles Powe
North Carolina Agricultural Research Service Raleigh, NC	Geoff Benson
South Carolina AES Clemson, SC	Hal Harris, Jr.
Tennessee AES Knoxville, TN	Kimberly Jensen
Virginia AES Blacksburg, VA	Warren Preston
Economic Research Service USDA	Richard Fallert
Agricultural Cooperative Service USDA	Carolyn Liebrand, K. Charles Ling, James B. Roof

Contents

Highlights	vi
Differences Between Prices Received by Farmers Shipping Milk to Proprietary Handlers and by Cooperative Members	2
Individual States	5
Differences Between Prices Received by Farmers Shipping Milk to Proprietary Handlers and by Cooperative Members Who Knew They Received Lower Prices	5
Satisfaction Level	7
Value of an Assured Market for Satisfied and Very Satisfied Members	9
Conclusions	11
References	11

Highlights

For this report, cooperative members' prices were each directly compared with average prices being offered by proprietary handlers in their area, which reflected the prices farmers could have received in December 1988 had they not elected to belong to a cooperative. Three price references were examined: gross price, adjusted to standard 3.5 percent butterfat content; mailbox price, the net price received after all deductions; and a second measure of mailbox price—without capital retains deducted. Differences between the average deductions of the alternative proprietary handlers and the cooperative members' deductions were also obtained.

The mailbox price for cooperative members in the 11 Southern States averaged \$0.37 per hundredweight (cwt) below what they could have received had they sold to a proprietary handler in their area (table A). Cooperative members' mailbox prices ranged from \$1.55 per cwt above their alternative proprietary handlers' to \$2.00 below. Thus, while some cooperative members received higher prices than they would have from proprietary handlers, cooperative prices on average were lower.

For most of the deductions, the differences between proprietary handlers and cooperatives were minimal, except for capital retains. The difference between the gross prices of cooperative members and alternative proprietary handlers was \$0.29 per cwt, which was less than the difference in mailbox price. The average difference in mailbox price without capital retains deducted was similar, \$0.28 per cwt. The average difference between bargaining-only cooperative members' prices and their alternative proprietary handlers' prices was much smaller than for bargaining/operating members.

Price data of only those cooperative members with an alternative proprietary handler in their area were used to determine the value of cooperative benefits. Further analysis was on those members who were aware of having prices lower than they would have received from a proprietary handler, satisfied and very satisfied members who were aware of having lower prices than they would have received from a proprietary handler, and members in the previous group that chose their cooperative for one reason—assured market. The average price difference was most similar among the different categories of members when prices were measured by mailbox price—without capital retains deducted.

Analysis on the entire data set captured the fact that at any one time cooperative prices may be above or below prices offered by other handlers. The more restricted grouping of members who were satisfied or very satisfied and had lower prices and knew it, resulted in an estimate of what farmers willingly gave up in price, \$0.57 per cwt (mailbox), to belong to a cooperative. Those who chose their cooperative for its assured market only (and who were satisfied or very satisfied, had lower prices and knew it) gave up \$0.60 per cwt, just \$0.03 per cwt more than the previous group, to belong to a cooperative. Thus, the value of belonging to a cooperative may be equivalent to the value of an assured market to producers.

Table A—Various measures of the difference¹ between alternative proprietary handlers' prices and cooperative pay prices

	Gross price	Mailbox price plus capital retains \$/cwt	Mailbox price	Number of farmers
All cooperative members who had an alternative proprietary handler	.29	.28	.37	493
Co-op members who were correct about receiving lower prices than an alternative proprietary handler	.57	.53	.62	213
Co-op members who were correct about receiving lower prices than an alternative proprietary handler and who were satisfied or very satisfied	.50	.48	.57	138
Co-op members who were correct about receiving lower prices than an alternative proprietary handler, were satisfied or very satisfied and who chose their cooperative for its assured market	.51	.50	.60	29

¹ The alternative proprietary handler with the highest mailbox price less cooperative price.

Value of Cooperative Benefits to Southern Dairy Farmers

Carolyn B. Liebrand and K. Charles Ling

Agricultural Economists
Agricultural Cooperative Service
U.S. Department of Agriculture

What is the value of the cooperative form of marketing to farmers? Many features of dairy marketing cooperatives separate them from proprietary milk handlers. One prominent feature is the fact that the cooperative guarantees to market all member milk. As a result, members' business risk is substantially reduced. In fact, the value of an assured market, while unknown, depends on marketing conditions, for example, it is of greater worth in periods of surplus. The value of field services provided by cooperatives (consultation by specialists and programs provided to improve productivity, quality and/or farm income, and others) is also hard to assess since many of these services are not available from other sources. In addition, some cooperative functions provide benefits to all milk producers, whether or not they are members. These functions include representation in policy and regulatory matters, dairy product quality assurance, protecting milk markets, and assuring accurate measurement of weights and tests, among others. A dollar value cannot be readily applied to these features, either.

The goal of this study was to put a dollar amount on the value of belonging to a cooperative. One way to do it is to compare the prices farmers selling to cooperatives received with the prices received by producers selling to proprietary handlers in the same area, and to assume the difference can be attributed to the cooperative features that are not expressed in terms of dollars and cents. Three different price measures were used for this purpose: gross price, "mailbox" price, and mailbox price without deducting cooperative capital retains. The gross price, adjusted to reflect the price

of milk with standardized (3.5 percent) butterfat content, represents the total value of the milk. The gross price is subject to authorized deductions by handlers for costs incurred on behalf of producers. The costs deducted by handlers also vary, so the price farmers receive after subtracting all deductions may be a more relevant figure to compare. Different deductions could reflect real differences in services provided or could reflect the farmer's situation—for example, hauling costs may vary due to farm location and/or subsidy by handler. This net price dairy farmers receive after all deductions is commonly called the "mailbox" price. To determine the mailbox price, deductions are subtracted from the gross price. These deductions consist of hauling costs, market service costs, State milk commission fees, "other" deductions—but not for supplies or loan adjustment, National Dairy Board and Federal assessment (totaling \$0.175 for all producers), and cooperative capital retains—an assessment to cover equity financing for buildings, equipment, trucks, cooperative offices.

It is important to note that in some States there was a lack of consistency and accuracy in reported deductions by proprietary handlers for Federal order market services. More than likely, deductions were underestimated due to respondents misunderstanding the survey question. In that case, the reported deduction was set to zero (1). This means the value of belonging to a cooperative as measured by mailbox price differences may have been up to the authorized upper limit, \$0.05 per cwt, less than indicated here. However, this bias might not be widespread as the market service deductions were suspended in some Federal mar-

ket orders in December 1988, and North and South Carolina did not have Federal orders at that time.

The withholding of capital retains by cooperatives, in essence, is an investment in the cooperative by members. Typically, cooperatives would revolve the retains over a period of several years. However, because the survey covered only 1 month, adequate information was not available on capital retains revolved, nor was information on the length of time capital was retained by cooperatives. If one accepts the notion that capital retains are an investment in the cooperative, a second measure of mailbox price—without the capital retains deducted—is also a good measure of the net price received by members. (See (1) for a more detailed discussion of milk price measures.)

Cooperatives distribute portions of net earnings to members in cash (this distribution is commonly referred to as the "13th check") while retaining the remaining portion for operating capital that is also revolved back to members in the future. Members' expectations of receiving a cash patronage and future revolvement of retained patronage are not reflected in the average price differences calculated here.

The study used the data set from the 12-State survey conducted by members of the Southern Dairy Marketing Research Committee (S-217) in early 1989. Milk price information for December 1988 was collected along with information about the farming operation, farmer characteristics, and farmers' evaluation of their milk handler. The overall sample size was 5,660 dairy farmers, which was about 57 percent of the estimated Grade A dairy farmers in the region. One-third of the farmers (1,858) in 11 States supplied adequate price information. Of these, 493 were cooperative members who had at least one alternative proprietary handler. The prices received by the 315 farmers who shipped milk to proprietary handlers were used to represent the alternative prices cooperative members could have received. Fifty-seven percent were cooperative members who did not indicate that they had an alternative to their present cooperative, so their price data were not useful for this analysis.

Differences Between Prices Received by Farmers Shipping Milk to Proprietary Handlers and by Cooperative Members

Differences in prices and deductions between cooperatives and proprietary handlers were determined by first averaging the prices received by farmers shipping to each proprietary handler on a State-by-State basis. Thus, if farmers in different States sold milk to the same proprietary handler, the prices received would be averaged separately to determine the price paid by that handler in each of the States. The corresponding deductions (hauling, market service costs, State milk commission fees, other deductions) were also averaged for each proprietary handler in the same way. These were the proprietary prices and deductions used in the comparison with the cooperative counterparts.

Next, the mailbox price received by each cooperative member and the average mailbox price paid by the identified alternative proprietary handler(s) in the same State as the cooperative member were compared. Respondents to the survey had identified alternative proprietary handlers that picked up milk in their area besides the cooperative to which they sold milk. If more than one alternative proprietary handler was identified, the one that paid the highest average mailbox price was used to calculate the difference in price. This way, cooperative members' prices each were directly compared with prices offered by proprietary handlers in their area, reflecting the prices farmers would have received in December 1988 had they not elected to belong to a cooperative. Differences between the average deductions of the identified alternative proprietary handler and the cooperative member's deductions were also calculated. Differences in the other two measures of price (gross price and mailbox price without capital retains deducted) were compared for the cooperative members and the alternative proprietary handler with the highest mailbox price, also. As stated earlier, cooperative members with no alternative proprietary handler were excluded. Because location differentials generally increase from north to south, the process of averaging proprietary handler prices by State resulted in a price approximately in

the middle of the State. There would not be a problem if cooperative members were located evenly throughout the State. Otherwise, price differences calculated might be slightly biased.

The mailbox price for cooperative members in the 11 Southern States averaged \$0.37 per hundred-weight (cwt) below what they would have received had they sold to a proprietary handler in their area (table 1). Cooperative members' mailbox prices ranged from \$1.55 per cwt above their alternative

proprietary handlers' to \$2.00 below. The difference between the gross prices of cooperative members and alternative proprietary handlers was \$0.29 per cwt, \$0.11 less than the difference in mailbox prices.

The capital retains deduction for cooperative members averaged \$0.09 per cwt (or was \$0.09 higher than alternative proprietary handlers who did not have capital retains). The cooperative members' marketing service deductions averaged \$0.03 less than the alternative proprietary handlers'

Table 1—Difference¹ between alternative proprietary handlers' prices and deductions and cooperative pay prices and deductions

	All	Bargaining/ operating	Bargaining- only
\$/cwt			
ALL MEMBERS:			
Gross price	.29***	.37***	.02
Mailbox price plus capital retains ²	.28***	.34***	.07
Mailbox price	.37***	.45***	.07
Hauling deductions	-.02**	-.02**	-.02
Marketing service deductions	.03***	.04***	-.02*
Capital retains deductions	-.09***	-.11***	.00*
Number of members	493	382	111
MEMBERS THAT DID NOT CHANGE HANDLERS:			
Gross price	.32***	.39***	.02
Mailbox price plus capital retains ²	.31***	.36***	.04
Mailbox price	.40***	.47***	.04
Hauling	-.01	-.01*	.01
Marketing services	.03***	.04***	-.03**
Capital retains	-.09***	-.11***	.00
Number of members	425	352	73
MEMBERS THAT CHANGED FROM A PROPRIETARY HANDLER:			
Gross price	.04	.13	-.04
Mailbox price plus capital retains ²	.09	.08	.09
Mailbox price	.15	.20	.10
Hauling deductions	-.08*	-.01	-.15*
Marketing service deductions	.04*	.06**	.02
Capital retains deductions	-.06***	-.12***	-.01
Number of members	29	14	15

The difference between proprietary and cooperative prices/deductions is statistically significant with 99.9 percent confidence (**), 95 percent confidence (**) and 90 percent confidence (*).

¹ The alternative proprietary handler with the highest mailbox price less cooperative price/deduction.

² Mailbox price without capital retains deducted.

while cooperative hauling deductions averaged \$0.02 more. The differences in other deductions and State milk commission assessments between cooperatives and proprietary handlers were very slight, \$0 to \$0.01 per cwt. There were no differences in National Dairy Board and Federal assessments because these deductions were the same for all producers (and the reason none were shown in the tables). Thus, excluding capital retains, cooperative members' deductions were only slightly less than their alternative proprietary handlers'; so, using the second measure of net price, mailbox price without capital retains deducted, the cooperative members' net prices averaged \$0.28 less per cwt than the alternative proprietary handlers' average net price.

There are two main types of cooperatives, each with distinct features. Bargaining/operating cooperatives sell raw milk and also invest in processing facilities to process some or all of their members' milk. Bargaining-only cooperatives limit their efforts to bargaining for price and do not own processing and/or manufacturing facilities. The two groups assume different types of risk in guaranteeing a market for their members' milk which could affect how farmers value belonging to a cooperative. Potentially in times of surplus, bargaining-only cooperatives may have to sell members' milk at distressed prices and/or have to haul long distances to market all member milk, possibly incurring losses. Bargaining/operating cooperatives may be better off because per-unit processing/manufacturing costs decrease as plants operate at full capacity and because they may be able to buy surplus milk at low prices from others. Alternatively, when milk supplies are tight, bargaining/operating cooperatives may incur the larger risk as plants may run at less efficient (more costly) levels and the cooperative may have to purchase milk at heightened prices to meet commitments to customers. Bargaining-only cooperatives, on the other hand, could just market member milk at elevated prices without carrying the cost of idle facilities (3).

The average difference between bargaining-only cooperative members' prices and their alternative proprietary handlers' prices was much smaller

than for bargaining/operating members. In fact, the small difference between bargaining-only cooperative members' prices and their alternative proprietary handlers' prices was not statistically significant. The capital retains deduction averaged \$0.11 per cwt for bargaining/operating members (ranging from \$0 to \$0.20 per cwt) and was zero for bargaining-only members. This reflects the difference in capital needs of the two types of cooperatives.

Thus, while some cooperative members received higher prices than they could have received from proprietary handlers, cooperative prices on average were lower. For most of the deductions, the differences between proprietary handlers and cooperatives were minimal, except for capital retains, and then only between bargaining/operating cooperatives and their alternative proprietary handlers.

The group of members who had been with their cooperative for at least 5 years had a price difference of \$0.03 per cwt—more than the average difference between all cooperative members and their alternative proprietary handlers (according to all three price measures). This classification attempted to isolate farmers who appeared content with their cooperative, as evidenced by the fact that they marketed milk through the cooperative for at least 5 years. Overall, these cooperative members accepted a \$0.40 lower mailbox price per cwt than if they sold to alternative proprietary handlers in the area.

Only a small number of members that had changed from a proprietary handler to their cooperative in the past 5 years had an alternative proprietary handler. These members' mailbox prices averaged just \$0.15 per cwt below their alternative proprietary handlers' prices and their gross prices averaged \$0.04 below. None of the differences for members who had changed from a proprietary handler were statistically significant with 90 percent or more confidence, however. When the price difference is small or not significant, these farmers chose to be with cooperatives.

Individual States

The general difference in mailbox prices between cooperatives and proprietary handlers differed for farmers in each of the 11 Southern States. The cooperatives' mailbox prices in each State where the average difference was statistically significant (i.e., with 90 percent or greater confidence) ranged from \$0.03 higher to \$0.70 lower per cwt than alternative proprietary handlers' prices (table 2). This demonstrates the effect of marketing conditions that tend to differ from State to State. It also depends upon the characteristics of the individual cooperative operating in each State. Individual cooperatives have features that make their nonquantifiable aspects more or less attractive to producers.

Differences Between Prices Received by Farmers Shipping Milk to Proprietary Handlers and by Cooperative Members Who Knew They Received Lower Prices

The analysis was extended further to determine what amount farmers knowingly "gave up" in price to belong to a cooperative rather than to have sold to a proprietary handler. This gave a more relevant reflection of how much cooperative benefits

were worth to Southern dairy farmers. Farmers were asked how the prices they received for their milk compared with the prices other handlers in the area paid. Of the cooperative members that had an alternative proprietary handler, 242 felt that their milk price was lower than prices received by other dairy farmers in the area, or felt their prices were lower than some and higher than others. Eighty-eight percent of these cooperative members' milk prices actually were lower than an alternative proprietary handler's (based on the December 1988 price information). Thus, to more clearly assess the value of belonging to a cooperative, only the 213 cooperative members that felt their prices were lower, or were lower than some and higher than others, and whose mailbox prices actually were lower than an alternative proprietary handler's average mailbox price, were used in the analysis. When asked how their prices compared, farmers thought in terms of what they received in their milk checks, i.e., their mailbox prices.

Members of cooperatives who did not know how their prices compared, or who had a wrong perception of how their mailbox prices compared to an alternative proprietary handler, were excluded. A difference in price for these farmers would not indicate a conscious decision to accept a lower

Table 2—Difference¹ between proprietary handlers' prices and deductions and cooperative pay prices and deductions in States where difference is significant

	States								
	A	B	C	D	E	F	G	H	I
\$/cwt									
Gross price	.29***	.04	.15*	.44***	.60***	.28***	.67***	-.17**	.60***
Mailbox price plus retains ²	.30***	.15**	.24***	.46***	.66***	.32***	.60***	-.17**	.48***
Mailbox price	.38***	.28***	.31***	.54***	.70***	.41***	.69***	-.03**	.55***
Hauling deductions	-.01	-.07**	-.09***	-.03**	.00	-.03**	.04**	-.05*	.00
Marketing service deduct.	.00	.00	-.01**	.01**	-.05**	-.01	.03***	.05***	.10***
Capital retains deductions	-.08***	-.14***	-.07***	-.08***	-.04**	-.09***	-.09***	-.14***	-.07***
Number of members	33	29	55	106	10	29	83	50	26

The difference between proprietary and cooperative prices/deductions is statistically significant with 99.9 percent confidence (***) , 95 percent confidence (**), and 90 percent confidence (*).

¹ The alternative proprietary handler with the highest mailbox price less cooperative price/deduction.

² Mailbox price without capital retains deducted.

pay price in return for cooperative benefits. Likewise, cooperative members who received higher prices were also excluded, for in their case the value of belonging to a cooperative could not be equated with how much they gave up in price to belong to a cooperative.

It must be recognized that the prices reflect only 1 month—December 1988, and thus the values calculated here may or may not reflect relative price levels at other times, and/or the price differences at the time of deciding upon a milk handler. Since the comparison to determine whether an alternative proprietary handler offered a higher price was based on mailbox milk price, in a few cases the cooperative member's gross price and mailbox price without capital retains deducted were higher than those of the alternative proprietary handler's.

The cooperative members who had lower mailbox prices than they could get from a proprietary handler in their area, and who were aware that higher prices were offered by an alternative handler in their area, accepted an average of \$0.62 per cwt lower mailbox price for their December 1988 milk (table 3). The difference in mailbox prices ranged from \$0.01 to \$2 lower per cwt of milk sold. The wide range reflects diverse marketing conditions, as well as variations in the value individual farmers gave to cooperative membership.

The difference between cooperative members' and alternative proprietary handlers' marketing services deductions was statistically significant, with the cooperatives' deductions averaging \$0.04 per cwt lower. The cooperative capital retains deduction averaged \$0.09 per cwt. Thus, there was only \$0.05 per cwt difference in the value of belonging to a cooperative when assessing the

Table 3—Pay price differences¹

	All	Bargaining/ operating	Bargaining- only
\$/cwt			
ALL MEMBERS:			
Gross price	.57***	.59***	.49***
Mailbox price plus capital retains ²	.53***	.54***	.49***
Mailbox price	.62***	.65***	.49***
Hauling deductions	-.01	-.01-.01	
Marketing service deductions	.04***	.04***	.01
Capital retains deductions -	.09***	-.10***	.00
Number of members	213	179	34
MEMBERS THAT DID NOT CHANGE HANDLERS:			
Gross price	.57**	.59**	.46***
Mailbox price plus capital retains ²	.53**	.54***	.45***
Mailbox price	.62**	.64***	.45***
Hauling deductions	.00	.00	-.01
Marketing service deductions	.04***	.04***	.01
Capital retains deductions	-.09***	-.10***	.00
Number of members	187	166	21

The difference between proprietary and cooperative prices/deductions is statistically significant with 99.9 percent confidence (***) and 99.5 percent confidence (**).

¹ The alternative proprietary handler with the highest mailbox price less cooperative price/deduction for those members who had a correct perception that their mailbox prices were lower.

² Mailbox price without capital retains deducted.

value based on gross versus mailbox prices. The average value of belonging to a cooperative without considering capital retains was \$0.53 per cwt. Most of the cooperative members who had lower mailbox prices than they could get from a proprietary handler in their area, and who were aware that higher prices were offered by an alternative handler in their area, had stayed with their cooperative for the past 5 years. Only eight members had switched from a proprietary handler to a cooperative, received lower prices, and were aware of it.

Satisfaction Level

An additional factor that needed to be accounted for was the satisfaction level of the members. Compared with dissatisfied producers, members that reported being satisfied or very satisfied with their handler did not give up as much in price by not having sold to alternative proprietary handlers (table 4). As discovered in the previous report (2), the price farmers received was a dominant factor affecting farmers' satisfaction level. The difference in gross prices between cooperative members and an alternative proprietary handler was \$0.44 per cwt for very satisfied members, but was \$0.82 per cwt for very unsatisfied members, or \$0.38 per cwt larger. The dissatisfied members were excluded from the remaining analysis because the lower prices they received may not accurately reflect the value they placed on belonging to a cooperative. These farmers may have been obligated by contract

to sell to their cooperative, or for some other reason could not or would not change handlers (for instance, the cooperative held retained earnings that could take many years to be revolved out), thus their price difference may not be a true reflection of the value of cooperative benefits to them, as evidenced by dissatisfaction with their cooperative.

Members who were satisfied or very satisfied with belonging to a cooperative received a \$0.57 per cwt lower mailbox price rather than sell to a proprietary handler (table 5). Gross prices for these members averaged \$0.50 per cwt below alternative proprietary handlers' average price. The value of belonging to a cooperative was lower for members with larger herd sizes. The value of belonging to a cooperative was similar for members with different ownership arrangements of the dairy operation. The length of time the farmer expected to continue dairying also had little effect on the magnitude of the average price difference between cooperative members' and their alternative proprietary handlers' prices. However, members organized as family corporations and those expecting to continue dairying for more than 10 years gave up slightly less than average to belong to their cooperative, \$0.52 and \$0.54 per cwt mailbox price, respectively.

Of the satisfied and very satisfied cooperative members who had a correct perception that their mailbox prices were lower than they could have received from a proprietary handler, 18 percent were members of bargaining-only cooperatives and 82 percent were bargaining/operating cooperative

Table 4—Pay price differences¹ by level of member satisfaction with their cooperative.

	Very satisfied	Satisfied	Very Unsatisfied	unsatisfied
\$/cwt				
Gross price	.44***	.51***	.67***	.82***
Mailbox price plus capital retains ²	.45***	.49***	.60***	.67***
Mailbox price	.52***	.58***	.69***	.77***
Number of members	24	114	55	19

The difference between proprietary and cooperative prices is statistically significant with 99.9 percent confidence (***)�.

¹ The alternative proprietary handler with the highest mailbox price less cooperative price/deduction for those cooperative members who had a correct perception that their mailbox prices were lower than the mailbox prices they could have received from a proprietary handler..

² Mailbox price without capital retains deducted.

Table 5—Pay price differences¹ by selected characteristics.

	Type of Cooperative		
	All	Bargaining/ operating	Bargaining- only
\$/cwt			
Gross price	.50***	.52***	.40***
Mailbox price plus capital retains ²	.48***	.49***	.45***
Mailbox price	.57***	.60***	.45***
Number of members	138	113	25
Herd Size			
	Less than 75 cows	75 to 149 cows	150 to 299 cows
\$/cwt			
Gross price	.50***	.52***	.43***
Mailbox price plus capital retains ²	.54***	.48***	.35***
Mailbox price	.62***	.56***	.44***
Number of members	58	56	18
Ownership Arrangement			
	Individual owner	Partnerships	Family Corporations
\$/cwt			
Gross price	.50***	.52***	.45***
Mailbox price plus capital retains ²	.49***	.49***	.42***
Mailbox price	.57***	.58***	.52***
Number of members	86	36	13
Length of Time Farmer Expects to Continue Dairying			
	10 years or less	More than 10 years	Not sure
\$/cwt			
Gross price	.54***	.48***	.49***
Mailbox price plus capital retains ²	.50***	.46***	.51***
Mailbox price	.59***	.54***	.59***
Number of members	31	63	42

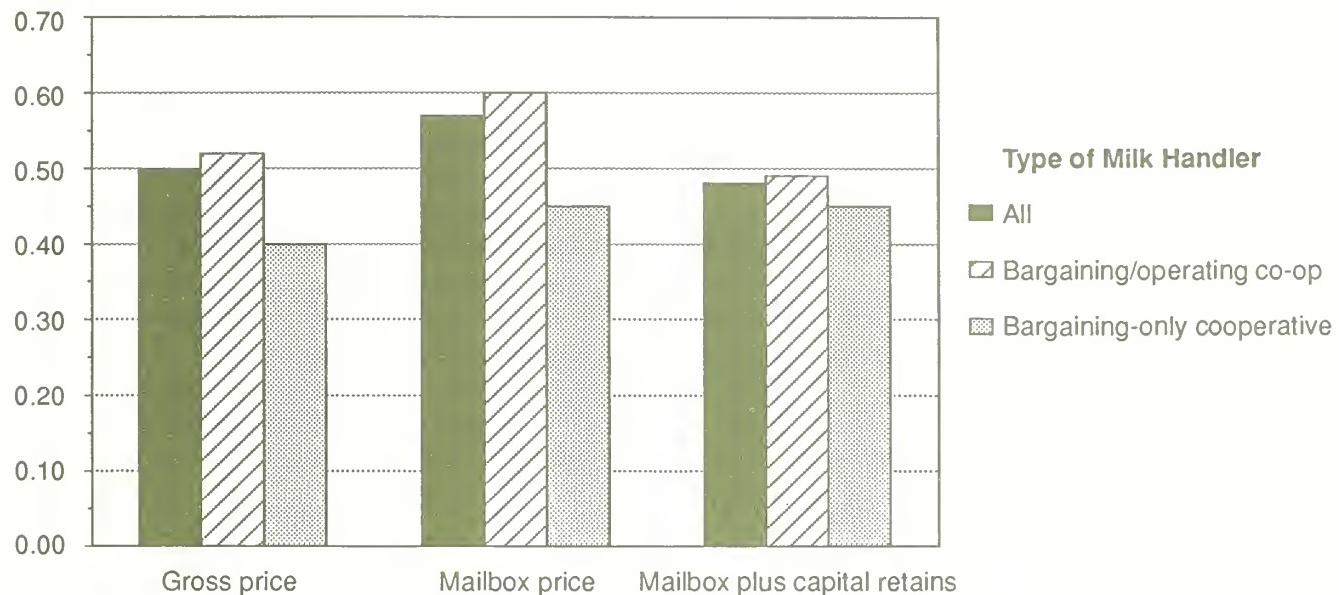
The difference between proprietary and cooperative prices is statistically significant with 99.9 percent confidence (***)�。

¹ The alternative proprietary handler with the highest mailbox price less cooperative price/deduction for very satisfied and satisfied members who had a correct perception that their mailbox prices were lower.

² Mailbox price without capital retains deducted.

Figure 1—Value of Cooperative Benefits*

Dollars per cwt of milk



* According to satisfied and very satisfied members who were aware that they received lower prices than they could have received from an alternative proprietary handler.

members. Farmers appeared to value belonging to the two types of cooperatives differently. Members of bargaining/operating cooperatives gave up \$0.60 per cwt in their mailbox price rather than sell to an alternative proprietary handler while bargaining-only cooperative members gave up less, \$0.45 per cwt of milk (fig. 1). The added security in times of surplus offered by bargaining/operating over bargaining-only cooperatives, among other things, may have been worth \$0.15 per cwt to producers.

However, in December 1988, the capital retains deduction averaged more than \$0.10 per cwt for members of bargaining/operating cooperatives while bargaining-only cooperatives members did not have capital retains deducted. Thus, the amount that farmers gave up to belong to a cooperative over a proprietary handler differed only slightly between the two types of cooperatives

when comparing the mailbox price without capital retains deducted.

Value of an Assured Market for Satisfied and Very Satisfied Members

Cooperative members cited a wide variety and combination of reasons for deciding to choose their current milk handler and factors that influenced their decision to remain with the same cooperative over the past 5 years (2). Members' decisions were influenced by four dominant reasons whose value is not typically communicated in dollars and cents: an assured market and stable and secure operations; loyalty or tradition; capable and friendly personnel; and field services. Satisfied and very satisfied members that chose their cooperative for its assured market (and possibly any or all other reasons), who were aware that they could have

Table 6—Measures of the value of an assured market and payment.

	Value of assured market among other reasons ¹		
	Reason for choosing cooperative	Reason for choosing bargaining/operating	Reason for choosing bargaining-only
\$/cwt			
Gross price	.53***	.56***	.30**
Mailbox price plus capital retains ³	.50***	.52***	.36**
Mailbox price	.59***	.62***	.36**
Number of members ¹	108	96	12
	Value of assured market among other reasons ¹		
	Strong or moderate influence not to change	Co-op's provision was excellent or average	
\$/cwt			
Gross price	.51***	.52***	
Mailbox price plus capital retains ³	.49***	.50***	
Mailbox price	.58***	.59***	
Number of members	111	125	
	Value of assured market alone ²		
	Reason for choosing cooperative	Strong or moderate influence to stay with the cooperative	Co-op's provision was excellent or average
\$/cwt			
Gross price	.51***	.50***	.39***
Mailbox price plus capital retains ³	.50***	.45***	.50***
Mailbox price	.60***	.54***	.50***
Number of members	29	16	15

The difference between proprietary and cooperative prices is statistically significant with 99.9 percent confidence (***) and 99.5 percent confidence (**).

¹ Other reasons in addition to assured market and payment may have been identified.

² No other reason besides assured market and payment was identified.

³ Mailbox price without capital retains deducted.

⁴ Satisfied and very satisfied cooperative members who had a correct perception that their mailbox prices were lower.

received higher prices from an alternative proprietary handler, accepted a mailbox price that averaged \$0.59 per cwt lower than they could get from an alternative proprietary handler (table 6). This was \$0.02 greater than the \$0.57 per cwt average difference, regardless of reason for choosing handler, between cooperative members' prices and alternative proprietary handlers' prices. The amount members gave up to sell to a cooperative was quite similar for both those who remained with their cooperative because of its assured market and those who rated their cooperatives' provision of an assured market excellent or average.

In an attempt to isolate the value of an assured market, price data for three groups of farmers were combined for evaluation: those members whose only reason for picking their cooperative was for its assured market; those who were strongly influenced to stay with their cooperative only because of its assured market and payment; and those who rated their cooperatives' provision of an assured market excellent or average, while rating no other services provided by the cooperative excellent. The results were not very revealing. However, those that chose their cooperative solely for its assured market gave up \$0.03 per cwt more in mailbox price than the average difference between cooperative members' and alternative proprietary handlers' prices for all satisfied and very satisfied cooperative members who had lower prices and were aware of it. Thus, most of what farmers gave up in price to belong to a cooperative is not readily attributable to specific benefits other than an assured market.

Conclusions

Four classifications of cooperative members were used to determine the value of cooperative benefits: first, the largest group—those with an alternative proprietary handler in their area; second, those who were aware of having prices lower than they could have received from a proprietary handler; third, satisfied and very satisfied members who were aware of having lower prices than they could have received from a proprietary handler; and fourth, the most restricted group—members in the

third group that chose their cooperative for one reason, an assured market. Each grouping had different merits. In addition, three measures of prices were used to calculate price differences: gross price, mailbox price, and the mailbox without capital retains deducted. The average mailbox price without capital retains deducted was the most similar between different assortments of members.

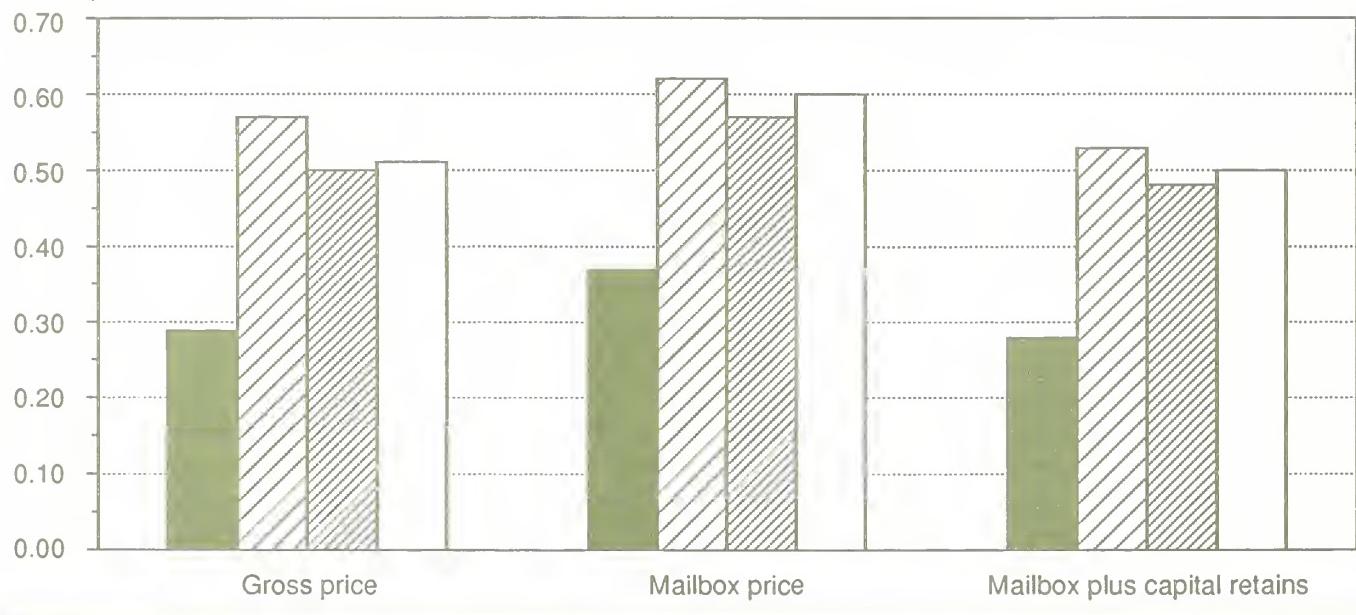
The general price difference indicated that the cooperative members overall accepted \$0.37 per cwt lower prices (table A and fig. 2). It could be argued that this is the best measure of the value of belonging to a cooperative, because at any one point in time cooperative prices may be above or below prices offered by others, which this captures. However, limiting the analysis to those who were satisfied or very satisfied, and had lower prices and knew it, may more clearly reflect the value farmers placed on belonging to a cooperative, \$0.57 per cwt. Isolating members who chose their cooperative for its assured market indicated that the value of belonging to a cooperative may be equivalent to the value of an assured market to producers.

References

- (1) Carley, Dale H., *Factors Affecting the Milk Checks of Southern Dairy Farmers*. Southern Cooperative Series Buleton No. 362, September 1991.
- (2) Liebrand Carolyn B., Dale H. Carley, and K. Charles Ling, *Milk Handler Evaluation by Southern Dairy Farmers*. ACS Research Report No. 97, May 1991.
- (3) Mengel, John R., *Assessing Milk Handler Benefits*. ACS Service Report No. 20, September 1988.

Figure 2—Average difference between cooperative and proprietary prices

Dollars per cwt of milk



■ General price difference (proprietary handler price minus cooperative price)

- Members who were aware that they received lower prices than they could have received from an alternative proprietary handler
- ▨ Satisfied and very satisfied members who were aware that they received lower prices than they could have received from an alternative proprietary handler
- Satisfied and very satisfied members who chose their cooperative for its assured market only, who were aware that they received lower prices than they could have received from an alternative proprietary handler

**U.S. Department of Agriculture
Agricultural Cooperative Service**
P.O. Box 96576
Washington, D.C. 20090-6576

Agricultural Cooperative Service (ACS) provides research, management, and educational assistance to cooperatives to strengthen the economic position of farmers and other rural residents. It works directly with cooperative leaders and Federal and State agencies to improve organization, leadership, and operation of cooperatives and to give guidance to further development.

The agency (1) helps farmers and other rural residents develop cooperatives to obtain supplies and services at lower cost and to get better prices for products they sell; (2) advises rural residents on developing existing resources through cooperative action to enhance rural living; (3) helps cooperatives improve services and operating efficiency; (4) informs members, directors, employees, and the public on how cooperatives work and benefit their members and their communities; and (5) encourages international cooperative programs.

ACS publishes research and educational materials and issues *Farmer Cooperatives* magazine. All programs and activities are conducted on a nondiscriminatory basis, without regard to race, creed, color, sex, age, marital status, handicap, or national origin.